

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10 644, 052 A
Source: IFWB
Date Processed by STIC: 11-17-04

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IFWO

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/644,052A

DATE: 11/17/2004

TIME: 16:09:51

Input Set : A:\C1037.70048US00seq.txt

Output Set: N:\CRF4\11172004\J644052A.raw

3 <110> APPLICANT: Krieg, Arthur M
 4 Samulowitz, Ulrike
 5 Vollmer, Joerg
 6 Uhlmann, Eugen
 7 Jurk, Marion
 8 Lipford, Grayson
 9 Rankin, Robert
 11 <120> TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACIDS
 13 <130> FILE REFERENCE: C1037.70048US00
 15 <140> CURRENT APPLICATION NUMBER: US 10/644,052A
 16 <141> CURRENT FILING DATE: 2003-08-19
 18 <150> PRIOR APPLICATION NUMBER: US 60/404,479
 19 <151> PRIOR FILING DATE: 2002-08-19
 21 <150> PRIOR APPLICATION NUMBER: US 60/404,820
 22 <151> PRIOR FILING DATE: 2002-08-19
 24 <150> PRIOR APPLICATION NUMBER: US 60/429,701
 25 <151> PRIOR FILING DATE: 2002-11-27
 27 <150> PRIOR APPLICATION NUMBER: US 60/447,377
 28 <151> PRIOR FILING DATE: 2003-02-14
 30 <160> NUMBER OF SEQ ID NOS: 388
 32 <170> SOFTWARE: PatentIn version 3.2
 34 <210> SEQ ID NO: 1
 35 <211> LENGTH: 17
 36 <212> TYPE: DNA
 37 <213> ORGANISM: Artificial sequence
 39 <220> FEATURE:
 41 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
 43 <400> SEQUENCE: 1
 44 acgtcgtttt cgtcggtt
 47 <210> SEQ ID NO: 2
 48 <211> LENGTH: 16
 49 <212> TYPE: DNA
 50 <213> ORGANISM: Artificial sequence
 52 <220> FEATURE:
 54 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
 56 <400> SEQUENCE: 2
 57 gcgtcgacgt cgacgc
 61 <210> SEQ ID NO: 3
 62 <211> LENGTH: 16
 63 <212> TYPE: DNA
 64 <213> ORGANISM: Artificial sequence
 66 <220> FEATURE:
 68 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide

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76 <212> TYPE: DNA
77 <213> ORGANISM: Artificial sequence
79 <220> FEATURE:
81 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
83 <400> SEQUENCE: 4
84 tccatgacgt tcctgatgc                                     19
87 <210> SEQ ID NO: 5
88 <211> LENGTH: 17
89 <212> TYPE: DNA
90 <213> ORGANISM: Artificial sequence
92 <220> FEATURE:
94 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
96 <400> SEQUENCE: 5
97 tcgtcggtttt cgtcggt                                     17
100 <210> SEQ ID NO: 6
101 <211> LENGTH: 22
102 <212> TYPE: DNA
103 <213> ORGANISM: Artificial sequence
105 <220> FEATURE:
107 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
109 <400> SEQUENCE: 6
110 tcgtcggtttt cggcgccgc cg                               22
113 <210> SEQ ID NO: 7
114 <211> LENGTH: 17
115 <212> TYPE: DNA
116 <213> ORGANISM: Artificial sequence
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122 <400> SEQUENCE: 7
123 tcgtcggtttt cgtcggt                                     17
126 <210> SEQ ID NO: 8
127 <211> LENGTH: 16
128 <212> TYPE: DNA
129 <213> ORGANISM: Artificial sequence
131 <220> FEATURE:
133 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
135 <400> SEQUENCE: 8
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139 <210> SEQ ID NO: 9
140 <211> LENGTH: 17
141 <212> TYPE: DNA
142 <213> ORGANISM: Artificial sequence
144 <220> FEATURE:
146 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
148 <400> SEQUENCE: 9

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Input Set : A:\C1037.70048US00seq.txt

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155 <213> ORGANISM: Artificial sequence
157 <220> FEATURE:
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165 <210> SEQ ID NO: 11
166 <211> LENGTH: 17
167 <212> TYPE: DNA
168 <213> ORGANISM: Artificial sequence
170 <220> FEATURE:
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178 <210> SEQ ID NO: 12
179 <211> LENGTH: 24
180 <212> TYPE: DNA
181 <213> ORGANISM: Artificial sequence
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187 <220> FEATURE:
188 <221> NAME/KEY: misc_feature
189 <222> LOCATION: (3)..(3)
190 <223> OTHER INFORMATION: deazaguanine
192 <220> FEATURE:
193 <221> NAME/KEY: misc_feature
194 <222> LOCATION: (6)..(6)
195 <223> OTHER INFORMATION: deazaguanine
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201 <210> SEQ ID NO: 13
202 <211> LENGTH: 24
203 <212> TYPE: DNA
204 <213> ORGANISM: Artificial sequence
206 <220> FEATURE:
208 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
210 <220> FEATURE:
211 <221> NAME/KEY: misc_feature
212 <222> LOCATION: (3)..(3)
213 <223> OTHER INFORMATION: deazaguanine
215 <220> FEATURE:
216 <221> NAME/KEY: misc_feature
217 <222> LOCATION: (22)..(22)
218 <223> OTHER INFORMATION: deazaguanine
220 <400> SEQUENCE: 13
W--> 221 tcntcgtttt gtcgttttgt cntt

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224 <210> SEQ ID NO: 14
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231 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
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237 <210> SEQ ID NO: 15
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239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial sequence
242 <220> FEATURE:
244 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
246 <400> SEQUENCE: 15
247 tcgtcgtttt acgacgtcgc g                21
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253 <213> ORGANISM: Artificial sequence
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257 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
259 <400> SEQUENCE: 16
260 tcgtcgtttt acgacgtcgt g                21
263 <210> SEQ ID NO: 17
264 <211> LENGTH: 24
265 <212> TYPE: DNA
266 <213> ORGANISM: Artificial sequence
268 <220> FEATURE:
270 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
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277 <211> LENGTH: 72
278 <212> TYPE: DNA
279 <213> ORGANISM: Artificial sequence
281 <220> FEATURE:
283 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide
285 <220> FEATURE:
286 <221> NAME/KEY: misc_feature
287 <222> LOCATION: (1)..(10)
288 <223> OTHER INFORMATION: n is a, c, g, or t with a phosphorothioate link, wherein any
of one
289         to seven n may be absent.
291 <220> FEATURE:
292 <221> NAME/KEY: misc_feature
293 <222> LOCATION: (11)..(30)
294 <223> OTHER INFORMATION: n is a, c, g, or t, wherein any of one to twenty n may be
absent.
296 <220> FEATURE:
297 <221> NAME/KEY: misc_feature

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RAW SEQUENCE LISTING

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Input Set : A:\C1037.70048US00seq.txt

Output Set: N:\CRF4\11172004\J644052A.raw

298 <222> LOCATION: (43)..(62)

299 <223> OTHER INFORMATION: n is a, c, g, or t, 0-20 nucleotides, wherein any of one to twenty n may be absent.

301 <220> FEATURE:

302 <221> NAME/KEY: misc_feature

303 <222> LOCATION: (63)..(72)

304 <223> OTHER INFORMATION: n is a, c, g, or t with a phosphorothioate link, wherein any of one

305 to seven n may be absent.

307 <400> SEQUENCE: 18

W--> 308

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn gtcgttgctg ttannnnnnnn nnnnnnnnnn nnnnnnnnnn nn

310 <210> SEQ ID NO: 19

311 <211> LENGTH: 84

312 <212> TYPE: DNA

313 <213> ORGANISM: Artificial sequence

315 <220> FEATURE:

317 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide

319 <220> FEATURE:

320 <221> NAME/KEY: misc_feature

321 <222> LOCATION: (1)..(10)

322 <223> OTHER INFORMATION: n is a, c, g, or t, with a phosphorothioate link, wherein any of one

323 to seven n may be absent.

325 <220> FEATURE:

326 <221> NAME/KEY: misc_feature

327 <222> LOCATION: (11)..(30)

328 <223> OTHER INFORMATION: n is a, c, g, or t, wherein any of one to twenty n may be absent.

330 <220> FEATURE:

331 <221> NAME/KEY: misc_feature

332 <222> LOCATION: (55)..(64)

333 <223> OTHER INFORMATION: n is a, c, g, or t, wherein any of one to twenty n may be absent.

335 <220> FEATURE:

336 <221> NAME/KEY: misc_feature

337 <222> LOCATION: (65)..(84)

338 <223> OTHER INFORMATION: n is a, c, g, or t, with a phosphorothioate link, wherein any of one

339 to seven n may be absent.

341 <400> SEQUENCE: 19

W--> 342

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345 <210> SEQ ID NO: 20

346 <211> LENGTH: 90

347 <212> TYPE: DNA

348 <213> ORGANISM: Artificial sequence

350 <220> FEATURE:

353 <223> OTHER INFORMATION: Synthetic Oligodeoxynucleotide

355 <220> FEATURE:

356 <221> NAME/KEY: misc_feature

357 <222> LOCATION: (1)..(10)

358 <223> OTHER INFORMATION: n is a, c, g, or t, with a phosphorothioate link, wherein

any of one

359 to seven n may be absent.

361 <220> FEATURE:

362 <221> NAME/KEY: misc_feature

363 <222> LOCATION: (11)..(30)

RAW SEQUENCE LISTING ERROR SUMMARY
 PATENT APPLICATION: US/10/644,052A

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Input Set : A:\C1037.70048US00seq.txt
 Output Set: N:\CRF4\11172004\J644052A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; N Pos. 3,6 ✓
 Seq#:13; N Pos. 3,22 ✓
 Seq#:18; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
 Seq#:18; N Pos. 24,25,26,27,28,29,30,43,44,45,46,47,48,49,50,51,52,53,54,55
 Seq#:18; N Pos. 56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72
 Seq#:19; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
 Seq#:19; N Pos. 24,25,26,27,28,29,30,55,56,57,58,59,60,61,62,63,64,85,66,67
 Seq#:19; N Pos. 68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84
 Seq#:20; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,28
 Seq#:20; N Pos. 24,25,26,27,28,29,30,61,62,63,64,65,66,67,68,69,70,71,72,73
 Seq#:20; N Pos. 74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90
 Seq#:28; N Pos. 6,19
 Seq#:51; N Pos. 11,14
 Seq#:57; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
 Seq#:57; N Pos. 24,25,26,27,28,29,30,67,68,69,70,71,72,73,74,75,76,77,78,79
 Seq#:57; N Pos. 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96
 Seq#:58; N Pos. 19,22
 Seq#:60; N Pos. 10
 Seq#:61; N Pos. 10
 Seq#:66; N Pos. 7,8,9,15,16,17,18
 Seq#:74; N Pos. 4,18,20
 Seq#:272; N Pos. 10
 Seq#:273; N Pos. 10
 Seq#:274; N Pos. 10
 Seq#:277; N Pos. 4,18,20
 Seq#:278; N Pos. 4,18,20
 Seq#:279; N Pos. 7,8,9,15,16,17,18
 Seq#:280; N Pos. 7,8,9,15,16,17,18
 Seq#:296; N Pos. 13,16
 Seq#:301; N Pos. 7,14,17
 Seq#:302; N Pos. 6,13,16
 Seq#:303; N Pos. 6,13,16
 Seq#:306; N Pos. 7,8,9,12,15,16,17,20
 Seq#:307; N Pos. 7,8,9,12,15,16,17,20
 Seq#:308; N Pos. 12,20
 Seq#:309; N Pos. 7,8,9,15,16,17
 Seq#:311; N Pos. 4,7,8,11
 Seq#:312; N Pos. 4,7,8,11,12,15
 Seq#:315; N Pos. 6,13
 Seq#:318; N Pos. 4,5,8,9,14
 Seq#:331; N Pos. 4,5,8,9,14
 Seq#:332; N Pos. 6,13
 Seq#:378; N Pos. 1,8,9,10,11,12,13,14,15,16,17,18,19,20
 Seq#:379; N Pos. 1,8,9,10,11,12,13,14,15,16,17,18,19,20

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/644,052A

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Input Set : A:\C1037.70048US00seq.txt
Output Set: N:\CRF4\11172004\J644052A.raw

Seq#:380; N Pos. 1,8,9,10,11,12,13,14,15,16,17,18,19
Seq#:381; N Pos. 1,8,9,10,11,12,13,14,15,16,17,18,19
Seq#:382; N Pos. 1,8,9,10,11,12
Seq#:383; N Pos. 1,8,9,10,11,12
Seq#:384; N Pos. 1,10,11,12
Seq#:385; N Pos. 1,10,11,12

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:18; Line(s) 299,308
Seq#:19; Line(s) 342
Seq#:20; Line(s) 378
Seq#:57; Line(s) 906

VERIFICATION SUMMARY

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Input Set : A:\C1037.70048US00seq.txt

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L:198 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:221 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:493 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
L:806 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0
L:906 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57 after pos.:0
L:930 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:0
L:962 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0
L:980 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0
L:1056 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0
L:1175 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74 after pos.:0
L:3558 M:283 W: Missing Blank Line separator, <400> field identifier
L:3787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:272 after pos.:0
L:3805 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:273 after pos.:0
L:3823 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:274 after pos.:0
L:3877 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:277 after pos.:0
L:3905 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:278 after pos.:0
L:3928 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:279 after pos.:0
L:3951 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:280 after pos.:0
L:4171 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:296 after pos.:0
L:4251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:301 after pos.:0
L:4279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:302 after pos.:0
L:4307 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:303 after pos.:0
L:4367 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:306 after pos.:0
L:4400 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:307 after pos.:0
L:4423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:308 after pos.:0
L:4446 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:309 after pos.:0
L:4487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:311 after pos.:0
L:4520 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:312 after pos.:0
L:4570 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:315 after pos.:0
L:4624 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:0
L:4813 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:331 after pos.:0
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L:5497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:380 after pos.:0
L:5520 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:381 after pos.:0
L:5543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:382 after pos.:0
L:5568 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:383 after pos.:0
L:5592 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:384 after pos.:0
L:5615 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:385 after pos.:0